

FOOD HABITS AND BREEDING BIOLOGY OF MERLINS IN DENALI NATIONAL PARK, ALASKA

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ABSTRACT - Four pairs of the Merlin (*Falco columbarius*) were studied during the 1983 breeding season in Denali National Park, Alaska. Additional observations were made of a fifth pair and a family discovered after young hatched. Observations began 30 April, during the courtship period, and ended 1 September, when Merlins had dispersed from nesting territories. To determine food habits, prey remains were collected and identified, and prey delivery behavior was recorded. Productivity was determined by checking nests during incubation and after young hatched. Breeding behavior, including sex roles and nest defense, was also documented during 125 h of observation.

Little is known about the status of the Merlin (*Falco columbarius*) in Alaska. During the past 2 decades some attention was given the decline of breeding populations in other parts of the range (Fox 1971; Hodson 1976; Newton et al. 1978; Oliphant and Thompson 1978; Newton et al. 1981; Williams 1981; Roberts and Green 1983). In contrast, information on Merlins in Alaska is limited to general surveys (Gabrielson 1944; Kessel and Cade 1958; Gabrielson and Lincoln 1959; Murie 1963; White et al. 1977; Ritchie 1982, 1983; Mindell 1983). The objective of this study was to gather preliminary information on their productivity, food habits, and breeding behavior in Alaska.

STUDY AREA AND METHODS

Merlin nests were studied in the Alaska Range, Denali National Park, Alaska, at 63°N. All nests were within 200 m of the park's only road, at elevations ranging from 770 m to 1230 m.

Merlins often nest in strips of white spruce (*Picea glauca*) woodland at treeline, (Figure 1). Below 770 m, spruce forest dominates, while above treeline willow (*Salix* spp.) and dwarf birch (*Betula nana* and *B. glandulosa*) give way to alpine tundra at about 1230 m. Between April and September the park receives most of its 37 cm annual precipitation. Rain accounts for most precipitation, but occasional snowfall may also occur in summer. Temperature ranges from 0° to 20°C. Daylength varies from 12 h in late March and September to 22 h in late June.

Field Observations - Four nest sites were located in April and May 1983. A fifth pair was observed in May, but a nest was not located. An additional family was observed in late July and early August.

One hundred twenty-five h were spent observing Merlins between 30 April and 1 September, when they are in the park. Approximately half the observation time was spent at 1 nest. Between 15 and 20 h were spent at each of the other 3 nests, and 9 h were spent observing other Merlins. Observations were made using 7 x 35 binoculars and a 20-45x zoom spotting scope. Observations at 2 nests were made from the road. The third nest was observed from atop a human food cache located 60 m from the nest, while the fourth was observed from the ground.

Nest trees were climbed once during the third week of incubation and twice after young hatched. On the third visit, young birds at 3 nests were banded.

Food Habits - Information on food habits was obtained largely from discarded prey remains found at plucking perches near nests. Remains were collected at least weekly at 2 nests, and at least bi-weekly at other sites.

Prey remains were identified by comparing prey items with study skins in the University of Alaska Museum. Mean prey weights were obtained from museum specimens and records. If remains of the same species were found at several locations near 1 nest on the same day, they were considered to be from a single individual except when feathers of juveniles could be differentiated from those of adults.

Aging Merlins - Dorsal plumage of juveniles closely resembled that of adult females, varying in color from medium brown to dark brownish gray. At close range, juveniles were identified by the upper tail coverts and rump feathers, which were the same color as the back. In contrast, the upper tail coverts and rump feathers of females were slate brown against the darker back (Temple 1972). The color of the cere, eyelids, legs and feet proved a more useful field character. In adults all were bright yellow. Ceres and eyelids of juveniles were pale blue-gray to pale yellow, and legs and feet were pale yellow.

Sexing Merlins - Adults were usually separated in the field by their marked sexual dichromatism. Dorsal plumage in males was slate blue, and in females, brownish gray. In some males the buffy background color of the breast and belly gave way to orange at the throat and flanks, a character never observed in females. Adults perching together were more easily sexed since males were smaller than females. In some pairs vocalizations helped distinguish between sexes.

Juveniles were difficult to sex. When perched together, they could usually be sexed by size as in adults. At close range, they were sexed by the color of their light tail bands, which are gray in males, and buffy in females (Temple 1972).

RESULTS AND DISCUSSION

Food Habits - Prey - Bird prey remains were the only remains found near nests (Table 1). Although Merlins were observed to bite at insects near perches, predation on insects could not be confirmed since pellets were not analyzed. Snyder and Wiley (1976) note that studies of prey remains and pellets often give biased estimates of diets for raptors. Their data from stomach analyses, based on the number of prey items found, indicate that Mer-



Figure 1. Typical habitat occupied by the Merlin in Denali National Park, Alaska.

lins take 74.1% insects, 25.2% birds, 0.5% mammals and 0.2% lower vertebrates. However, most of their data were from migrants. Brown and Amadon (1968) estimate that, by weight, Merlins take 80% birds; 15% insects and 5% mammals.

Merlins preyed on 22 species of birds (Table 1). The main species were the American Tree Sparrow (*Spizella arborea*), Dark-eyed Junco (*Junco hyemalis*), Lapland Longspur (*Calcarius lapponicus*), Fox Sparrow (*Passerella iliaca*) and White-crowned Sparrow (*Zonotrichia leucophrys*), in decreasing order of occurrence. These 5 species formed approximately 49% of the numerical total remains collected.

The 5 species also made up 48% of the prey biomass, with the Fox Sparrow contributing most substantially (13.3%, Table 1). The Varied Thrush (*Ixoreus naevius*), Snow Bunting (*Plectrophenax nivalis*), and *Catharus* thrushes were not numerically important prey species, but did contribute substantially to total prey biomass (Table 1).

By contrast, the variety of major prey species taken by breeding Merlins elsewhere is much smaller. The Horned Lark (*Eremophila alpestris*) alone formed approximately 50% of the numerical prey

remains collected on the Canadian prairies by both Fox (1964) and Hodson (1976). Newton et al. (1978) in Northumberland, Great Britain, found the Meadow Pipit (*Anthus pratensis*) comprised 48% of numerical remains collected. Finally, Merlins at an urban site in Saskatoon, Saskatchewan, took an estimated 90% House Sparrows (*Passer domesticus*) (Oliphant 1974).

Habitat preferences of major prey species at Denali Park indicate that Merlins do not confine hunting to a particular habitat. Juncos are found primarily in spruce forest, while Tree, Fox and White-crowned Sparrows are common in willow and birch shrubland and spruce woodland, and Lapland Longspurs are found in alpine tundra.

Forty-five percent of prey items collected between 10 July and 6 August were identified as juveniles. Juveniles taken included the American Tree Sparrow, Lapland Longspur, White-crowned Sparrow, Dark-eyed Junco, Snow Bunting, Savannah Sparrow (*Passerculus sandwichensis*), Rosy Finch (*Leucosticte arctoa*) and Ptarmigan (*Lagopus* sp.).

Frequency of Prey Delivery - According to Krull (1976) and Daniel Gibson (pers. comm.), northern

Table 1. Prey remains found at 4 Merlin nests in Denali National Park, Alaska.

SPECIES	% ^a	% BIOMASS ^b
Ptarmigan (<i>Lagopus</i> sp.)	0.9	-
Semipalmated Plover (<i>Charadrius semipalmatus</i>)	1.8	3.4
Least Sandpiper (<i>Calidris minutilla</i>)	0.9	0.9
Horned Lark (<i>Eremophila alpestris</i>)	1.8	2.7
Tree Swallow (<i>Tachycineta bicolor</i>)	0.9	0.7
Catharus thrushes (<i>C. ustulatus</i> , <i>C. guttatus</i> , <i>C. minimus</i>)	0.8	9.0
Varied Thrush (<i>Ixoreus naevius</i>)	2.8	8.6
Water Pipit (<i>Anthus spinoletta</i>)	6.2	5.4
Orange-crowned Warbler (<i>Vermivora celata</i>)	2.8	1.0
Yellow Warbler (<i>Dendroica petechia</i>)	1.8	0.7
Northern Waterthrush (<i>Seiurus noveboracensis</i>)	0.9	0.6
Wilson's Warbler (<i>Wilsonia pusilla</i>)	1.8	0.6
American Tree Sparrow (<i>Spizella arborea</i>)	11.5	8.5
Savannah Sparrow (<i>Passerculus sandwichensis</i>)	3.6	2.6
Fox Sparrow (<i>Passerella iliaca</i>)	8.9	13.3
Golden-crowned Sparrow (<i>Zonotrichia atricapilla</i>)	1.8	2.4
White-crowned Sparrow (<i>Zonotrichia leucophrys</i>)	8.0	7.9
<i>Zonotrichia</i> sp.	0.9	1.0
Dark-eyed Junco (<i>Junco hyemalis</i>)	10.6	8.1
Lapland Longspur (<i>Calcarius lapponicus</i>)	9.8	10.7
Snow Bunting (<i>Plectrophenax nivalis</i>)	5.3	8.3
Rosy Finch (<i>Leucosticte arctoa</i>)	2.8	3.1
Common Redpoll (<i>Carduelis flammea</i>)	0.9	0.5
Unidentified small bird	5.3	-
Total	100.0	100.0

^aTotal prey items = 113.

^bTotal calculated prey biomass = 2748 g; mean weights could not be determined for unidentifiable prey remains and Ptarmigan of unknown species and age.

Frequency of Prey Delivery - According to Krull (1976) and Daniel Gibson (pers. comm.), northern passerines rest 3 to 4 H daily, usually between 2300 H and 0300 H, despite long summer photoperiods. Since Merlins were observed hunting between 0400 H and 2330 H, a 20-H day was assumed for the purpose of estimating frequency of prey delivery.

During incubation, 18 May to 19 June, males delivered prey to females at a rate of 0.15 birds/h (3.0 birds/d). Between 19 June and 25 July, when young were being fed, males delivered prey to females at a rate of 0.48 birds/h (9.6 birds/d). Prey capture by females during breeding was not documented. In a study of a wintering female Merlin, Page and Whitacre (1975) estimated prey consumption at 2.2 birds/d. The Dunlin (*Calidris al-*

pina), the major prey species in that study, weighs approximately twice as much as major Denali Park prey species.

Hunting Behavior - Fast, low, horizontal flight from a perch has been described previously for Merlins (Bent 1938; Page and Whitacre 1975; Cade 1982). On 5 June a male departed its nest area and flew to an adjacent shrub-covered slope. He flew rapidly and close to the vegetation, gaining altitude only when he approached a rise, where he turned and swept back over the brush. He then perched without prey. Frederick Dean (pers. comm.) observed a similar low, fast flight along a ditch parallel to the park road. In this case the bird flew so low that it was level with the road bed. In another observation a male left his perch, flying fast over an

adjacent river valley. When he was about 1 km from the nest he began to dive at several small birds. Both the falcon and the pursued birds dipped and rose several times. Within 2 min, the falcon returned to the nest area with prey.

On several occasions females were observed to dive at a steep angle into brush below their perches near nests. Whether they were hunting or collecting cached prey could not be determined.

Feeding and Caching Behavior - Merlins removed the head and wings of prey and plucked most of the feathers before eating. Merlins usually prepared prey on snags, stumps or fallen logs within 150 m of the nest, using favorite perches repeatedly throughout the season.

Merlins sometimes cached prey in the vicinity of plucking perches. One Rosy Finch was found entire and unplucked. Four other birds were found partially plucked, with heads and wings removed. In 1 instance, following a food transfer, a female flew low toward an unseen perch for 10 sec, then appeared on a perch without prey. On another occasion, a female flew toward an unseen perch and then returned to the nestlings with prey. In this instance, the male had been absent from the area for 2 h.

Habitat and Nest Sites - Breeding Merlins at Denali Park favored sloping white spruce forest within 1 km of treeline. All 4 nests were in white spruce trees (Tables 2,3). One nest tree was living and undamaged, while a second had little green foliage. A third was living but was missing many branches on one side, where an old telephone cable was attached to the trunk with a glass insulator (Figure 2). The fourth nest was in a snag (Figure 3). Merlins nested only in abandoned nests of Black-billed Magpies (*Pica pica*) (Table 4). There was no evidence that Merlins altered the structure of Magpie nests.

Nesting habits vary throughout the Merlin's range. All nests recorded in Denali Park were in trees, and most Merlins in Norway and North America nest in trees (Fox 1964; Oliphant 1974; Oliphant and Thompson 1976; Hodson 1976; Cramp and Simmons 1980; Evans 1982). Near Arctic treeline in Alaska and Canada, Merlins nest on the ground (Bent 1938, Ritchie 1983, Clayton White, pers. comm.). Ground nesting is the norm in Great Britain. Seventy-seven percent of 96 nests in Northumberland (Newton et al. 1978), and 64% of 90 nests in Wales (Williams 1981) were on the ground.

Table 2. Description of 4 Merlin nest sites in Denali National Park, Alaska.

NEST	VEGETATION TYPE ^a	DESCRIPTION
1	Open needleleaf forest; white spruce	Nest tree was on a slope in open forest with a low, closed understory. Tree was located about 100 m from low, closed shrub scrub and 120 m from the road.
2	Open needleleaf forest; white spruce	Nest tree was in flat forest with low, open understory. Tree was located 50 m from low, closed shrub scrub and about 150 m from the road
3	Closed tall shrub scrub; willow	Nest tree was on a slope dominated by tall willows (> 1.5 m). Area was formerly open spruce forest; almost all mature spruce trees were destroyed by porcupines during the 1950s, leaving many snags. Tree was 10 m from the road.
4	Open needleleaf forest; white spruce	Nest tree was on a slope in spruce forest with a tall, open understory. Tree was 500 m from shrub, 100 m from a river, and 90 m from the road.

^aVegetation nomenclature and classification follows Viereck et al. (1982).

Table 3. Measurements of white spruce nest trees used by Merlins in Denali National Park, Alaska during 1983.

NEST	TREE HEIGHT (m)	TREE DIAMETER AT NEST HEIGHT (cm)	TREE DIAMETER AT BREAST HEIGHT (cm)	HEIGHT OF NEST ABOVE GROUND (m)
1	9.3	18.8	37.6	5.5
2	7.5	12.9	22.2	5.5
3	9.0	18.8	26.9	4.1
4	10.0	21.8	28.3	4.1
\bar{x}	8.9	18.1	28.8	4.8
S.D.	1.1	3.7	6.5	0.8

Nesting Chronology - Spring arrival dates have not been documented for the Alaska Range, but records for interior Alaska indicate arrivals during the last 2 weeks of April. Occasionally individuals arrive in Fairbanks as early as late March (Brina Kessel, unpubl. data).

Merlins were first observed in Denali Park on 30 April, and engaged in breeding activity between that date and 15 May. During this period Merlins were extremely vocal. They were observed investigating Magpie nests, and on 10 May a female was flushed off a nest in which she later laid eggs. Harassment of other bird species near nests was first observed 7 May. All observed copulation attempts occurred between 30 April and 15 May. After 15 May females at all nests were observed only when they left nests to take prey from males, indicating that they began incubating during the third week of May.

Since Merlins incubate for 28-32 d (Cramp and Simmons 1980), it was assumed that Merlins in Denali Park hatched during the third and fourth weeks of June. On 29 June, nestlings at all nests were downy white, and were unable to grasp with their feet. On 10 July all young were able to grasp well. Nestlings at 1 nest had remiges over 6 cm long on this date. Their backs, wings and heads were well feathered, although down still projected through the plumage in tufts (Figure 4). Nestlings at 2 other nests visited on 10 July were still downy, with remiges 2-4 cm long (Figure 5).

The fourth nest visited 10 July was empty. The young left sometime after 5 July, when the adult female was last seen carrying prey to the nest. Mer-

lins at the other 3 nests fledged between 11 and 19 July. Merlins fledged about 32 d after hatching (Fox 1964; Newton et al. 1978).

After 20 July adults were only occasionally seen in nest areas, the last being a male on 16 August. Juveniles were first observed away from nest areas on 7 August. Merlins continued to be observed throughout the park until the first week of September.

Nest Success - All 4 nests contained 5 eggs, which compared to mean clutch sizes in Canada and Wales of 4.1 to 4.7 eggs (Fox 1971; Hodson 1976; Roberts and Green 1983). Fifteen of 20 eggs produced hatched, 2 did not hatch, and 3 were not accounted for, yielding a mean of 3.75 hatchlings/nest (range 2-5). A minimum hatching success of 75% was obtained on this basis. By contrast, Fox (1971) recorded 49% success in a Canadian population apparently affected by pesticide contamination, and 92-98% success in unaffected populations there.

Successful nests at Denali Park appear to be producing as many fledglings as reported for other areas. One nestling died soon after hatching, but all others fledged, giving a mean of 3.5 fledglings/nest. Hodson (1976) reported a mean of 3.2 fledglings/nest with young, while Oliphant and Thompson (1978) reported a mean of 4.0 fledglings/nest.

Courtship and Copulation Behavior - Merlins were observed investigating potential nests on 3 occasions. On 7 May, a female called "ki-ki-ki-kee" as she flew around the perched male. While the male remained perched, the female disappeared among the boughs of a spruce tree, where she uttered a "tick" call, and remained for 2 min. On 10



Figure 2. Magpie nest in White Spruce tree used by Merlins in 1983.



Figure 3. Magpie nest in dead spruce used by Merlins in 1983.

May, a female entered a Magpie nest and uttered "ki-ki-ki-kee", while a male flew in circles nearby, also calling. The female walked back and forth through the nest, then flew to an unseen perch and uttered a "chrrr" call, which often preceded copulation. The male flew toward her, also out of sight.

Food exchanges during courtship were usually slow and tentative. On 10 May, a paired male brought an unplucked Snow Bunting to the female

and perched beside her. The male transferred the bird to his bill as the female bit at it with her bill. The male then allowed the female to take the bunting, and she left the perch. The male remained on the perch an additional 5 min, gave a "tick" call twice, then flew in the same direction as the female. On 19 May, the male at another nest brought a bird to the nest area and perched. He uttered the "ki-ki-ki-kee" and "tick" calls, and bit at the prey. After 5 min

Table 4. Measurements (cm) of magpie nests occupied by Merlins in Denali National Park, Alaska during 1983.

NEST	NEST DIAMETER	BOWL DIAMETER	BOWL DEPTH	CAVITY HEIGHT
1	64.0	30.0	8.0	50.0
2	61.0	25.0	10.0	37.0
3	46.0	25.0	8.0	55.0
4	44.0	20.0	9.0	40.0
\bar{x}	44.0	20.0	9.0	40.0
S.D.	10.2	4.1	1.0	8.4



Figure 4. Nestling merlin in Alaska, age \pm 21 d.



Figure 5. Nestling merlin in Alaska, age 10 - 14 d.

the female perched on the same snag. The male crouched, transferring the prey to his bill, while the female stepped slowly down the branch toward the male. When she was close enough, the male allowed her to take the prey. The pair appeared to tug at the prey a moment before the male relinquished it. The female remained on the perch as the male flew to the nest tree and called.

Copulation attempts were observed 11 times during 16.3 h of observation between 30 April and 12 May. In one instance, Merlins attempted copulation twice in a 2 min period. One male mounted 3 times in a 2½ h period. Females often appeared to solicit copulation. Typically, a female called "ki-ki-keee", flew low through the forest and perched near the male. The female then crouched on the perch and leaned forward so that her body was horizontal. While in this position, the female spread and lifted her tail to one side. The male then flew to the female, hovered momentarily above her, and uttered the "chrrr" call. In 2 instances a male approached a perched female and uttered the "chrrr" call before the female assumed the crouch position.

Sex Roles During Incubation - Females performed the majority of incubation. During 30 h of observation during incubation, males incubated approximately 15% of the time. This estimate is based on direct observation of undisturbed males entering and leaving nests. Both Temple (1972) and Newton et al. (1978) estimated that males incubate 33% of the time. However, their estimates were obtained by flushing birds from nests and then sexing them.

Males generally took over incubation for periods of 10 min to 1 h after bringing food to females. Females indicated readiness to resume incubation by calling and flying to perches near nests, at which time males vacated the nests. While 1 bird incubated the other often remained perched within 150 m. Perched males usually dozed or looked about, while perched females stretched and preened actively.

Males apparently did all hunting during the incubation period. Food transfer was accomplished in a more rapid and aggressive manner than was usually observed during courtship. When a male en-

tered the nest area and called, the incubating female left the nest. She quickly took the prey from the male and flew to a perch to feed. On only 1 occasion did a male appear reluctant to relinquish prey.

Sex Roles During the Nestling Period - Merlins apparently removed or ate eggshells and dead nestlings. When all nests were checked after hatching, 2 entire eggs were found, while 3 others were unaccounted for. No eggshells were found. Cramp and Simmons (1980) state that eggshells are removed or eaten by females. On 18 June, a dead nestling was found atop a 2 m stump commonly used as a plucking perch.

My observations indicate that females brood young only during the first week after hatching. Even then females were observed off nests for progressively longer periods. Feeding young, which generally required 10-20 min, was accomplished only by females. When the nestlings at 1 nest fledged at approximately 2 wk old, the female continued to feed them on the ground.

During the nestling period, males were away from nests more often, yet delivered food to females more frequently than during courtship or incubation. While females may have taken prey near nests, they did not appear to make a major contribution to food collection. This finding is consistent with studies by Rowan (1921) and Oliphant (1974). However, Temple (1972) found evidence suggesting that females do hunt soon after brooding.

Behavior of Young Merlins - On 29 June, nestlings called weakly, and did not react to an approaching hand. By 10 July, all young were alert and active. For example, 1 nestling perched at a nest entrance for 30 min, preened, watched passing vehicles, bobbed its head and snapped at insects.

During the first week after fledging, young did not fly often. When they did, flights were low and of short duration. After the first week, fledglings became more active. They called frequently, and often in unison. They chased each other, and mobbed adults returning to the nest area with prey.

By early August, juveniles were observed chasing other birds. While not observed hunting successfully, they were seen pursuing small birds. More often, they chased other raptors. On 16 August, 3 juveniles were observed chasing 2 American Kestrels (*Falco sparverius*) and 2 juvenile Northern Harriers (*Circus cyaneus*) simultaneously. On other occa-

sions, these same juveniles chased a Golden Eagle (*Aquila chrysaetos*), a Sharp-shinned Hawk (*Accipiter striatus*) and 2 Black-billed Magpies. All these chases appeared playful. Pursued birds, particularly kestrels and Sharp-shinned Hawks, sometimes turned and chased Merlins, and frequently remained in the area following a chase. Kestrels and Merlins sometimes perched together in the same tree. Cade (1982) has observed similar associations of juvenile Merlins and Sharp-shinned Hawks in interior Alaska.

Territorial and Nest Defense - Merlins at Denali Park generally chased intruders when found within 150 m of nests, females behaving more aggressively than males. Merlins were particularly aggressive toward raptors and other large birds. Golden Eagles, Northern Harriers, Common Ravens (*Corvus corax*) and a Gyrfalcon (*Falco rusticolus*) were chased on different occasions. Merlins were also observed diving at Black-billed Magpies and Willow Ptarmigan (*Lagopus lagopus*). In one instance, a female called vigorously for 10 min after a small airplane passed low over the area.

During courtship, Merlins were chased by birds already present in nest areas. On 1 occasion, a Mew Gull (*Larus canus*) chased a female Merlin just after the Merlin dove at a magpie. Gray Jays (*Perisoreus canadensis*) displayed aggression toward Merlins in early May, but were ignored.

Red Squirrels (*Tamiasciurus hudsonicus*) may pose a threat to nestlings. The nest vacated by young Merlins between 5 and 10 July contained spruce cones and scales in mid-July, indicating that squirrels were using it. Squirrels may have displaced the Merlins. Red Squirrels at Denali Park have been observed to feed on American Robin (*Turdus migratorius*) nestlings.

While they ignored Moose (*Alces alces*) and Grizzly Bear (*Ursus arctos*), Merlins were intolerant of human presence near nests. My searches for prey remains were commonly interrupted by a Merlin calling and diving at me, and this harassment continued until I moved at least 100 m from the nest. Perched males sometimes allowed me to pass without disturbance, but when visible to a female, I was always pursued.

The proximity of the park road to all 4 nests required Merlins to adjust to human activity. In 3 cases, nests were between 90 and 150 m from the road. Merlins at these nests appeared to regard the road as a territorial boundary, ignoring vehicles

and pedestrians on the road, but diving and calling at pedestrians off the road in the direction of nests. The fourth nest was located 10 m from the road. Plucking perches were located across the road, so the road bisected the nest territory. In May, adults called at any human activity on the road. By June, they ignored road activity, but pursued pedestrians off the road in either direction.

Nest checks elicited a strong response. Merlins often flushed from nests when humans approached to within 5 m of nest trees, and always flushed when nest trees were climbed. They called from nearby perches, diving frequently to within 2 m of the intruder, and were joined by their mates, when present.

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